**What is claimed is:**

1. A transverse longitudinal-cylinder sewing machine, comprising:

an automatic thread loosening device;

a tension adjustment mechanism;

an automatic thread cutting bi-directional solenoid device; and

a differential fabric driving teeth displacement control device which includes;

a primary transmission mechanism;

a first and a second push mechanisms driven by said primary transmission mechanism for swinging reciprocally;

a first and a second adjustment mechanisms connecting to said first and said second push mechanisms;

a rocking mechanism driven by said primary transmission mechanism; and

a first and a second fabric driving mechanisms driven by said first and said second push mechanisms for reciprocal and horizontal movement, driven by said rocking mechanism for swinging up and down thereby to move oscillate along an ellipsoidal track;

wherein said first and saidsecond fabric driving mechanisms are normal to other mechanisms and form chained movements therewith to control an operation displacement between said first and saidsecond fabric driving

mechanisms, thereby to facilitate fabric movement and adjust to deviations of said first and saidsecond push mechanisms through said first and saidsecond adjustment mechanisms to control the relative operating displacements there between.

2. The transverse longitudinal-cylinder sewing machine of claim 1, wherein said primary transmission mechanism includes a co-axle which is assembled in this order: a first crank, a second crank and a third crank, said seventh crank being coupled with an first axle sleeve of a first bearing, said the first axle sleeve being fastened to one end of said co-axle, said third crank being coupled on one end of an second axle sleeve of a second bearing, then coupled to one side of said seventh crank spaced by a washer, said second axle sleeve having another end coupling with a third bearing which is coupled with said second crank from outside, said second crank having another side corresponding to said second axle sleeve to couple with an anchor assembly to allow said co-axle to couple with a lower arched wire mechanism; said co-axle, having another end corresponding to said seventh crank fastened to an third axle sleeve which is coupled with a fourth bearing and a washer ring, said third axle sleeve being coupled with a fourth crank which has a slot formed at one end to couple with a firth shaft to pivotally engage with said two linking arms to connect said first push mechanism and said first adjustment mechanism.

3. The transverse longitudinal-cylinder sewing machine of claim 1, wherein said the first push mechanism includes a fifth crank which is pivotally coupled with another end of said linking arm, said fifth crank being coupled with a second shaft through an fourth axle sleeve, said second shaft having another end coupling with a sixth crank which has another end to pivotally couple with a first push arm through an anchor member and connect to said first fabric driving mechanism.

4. The transverse longitudinal-cylinder sewing machine of claim 1, wherein said first adjustment mechanism has a driven member which has apertures formed thereon, one aperture being engaged with a fastener for fastening, another aperture being coupled with a driving shaft of a rocker adjustment assembly, and yet another aperture being pivotally coupled with said linking arm through a seventh shaft.

5. The transverse longitudinal-cylinder sewing machine of claim 1, wherein said second crank of said primary transmission mechanism has another end connecting to said second push mechanism, the another end of said second crank being pivotally coupled with one end of a seventh crank through a third shaft, the end of said seventh crank inside the sewing machine, said seventh crank being driven by an axle, said axle located on one side of said seventh crank and being coupled with said first push mechanism through an fhfth axle sleeve, a self-lubricating bearing, a linking element and a

linking arm pivotally coupled to said linking element; said axle located on another side of said seventh crank being coupled with another self-lubricating bearing and a linking element sandwiched between sixth and seventh axle sleeves, said linking element being connected to said second adjustment mechanism.

6. The transverse longitudinal-cylinder sewing machine of claim 1, wherein said second adjustment mechanism is pivotally coupled with said linking element through one end of a eighth crank having another end pivotally coupled with a linking arm and a ninth crank through a fourth shaft, said ninth crank having one end connecting to a driven member through a fifth shaft, said driven member having apertures formed thereon, one aperture being coupled with said fifth shaft, another aperture being coupled with an anchor member for anchoring, and a final aperture being coupled with a driving shaft of a rocker adjustment assembly, said linking arm of said second adjustment mechanism having another end driving said second fabric driving mechanism through tenth and eleventh cranks.

7. The transverse longitudinal-cylinder sewing machine of claim 1, wherein said first and said second fabric driving mechanisms include first and second sliding arms which have sliding troughs at the bottom to couple with a bracing shaft which serves as a fulcrum to said first and saidsecond sliding

arms, said first and said second sliding arms having distal ends which have rear fabric driving teeth and front fabric driving teeth respectively.

8. The transverse longitudinal-cylinder sewing machine of claim 7, wherein said first and said second sliding arms have respectively another distal end opposite to the front and the rear fabric driving teeth to couple with said rocking mechanism through a sixth shaft; said rocking mechanism having one end fastening to a rocker arm mounted on said sixth shaft, said rocker arm having another end coupled with said seventh crank of said primary transmission mechanism through a coupling member.

9. The transverse longitudinal-cylinder sewing machine of claim 1, wherein said first fabric driving mechanism has a distal end coupled with a first push arm of said first push mechanism through a coupling member, and said second fabric driving mechanism has a distal end coupled with said second push mechanism and said second adjustment mechanism through a second push arm.

10. The transverse longitudinal-cylinder sewing machine of claim 1, wherein said primary transmission mechanism, saidfirst and saidsecond push mechanisms, said first and saidsecond fabric driving mechanisms and said first and saidsecond adjustment mechanisms have oil passages and oil ports that communicate with each other after assembly.